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JUNE.

A breath of fragrance stirs the air,
And life and beauty everywhere;
The birds sing songs within the trees,
Amidst the flowers the hum of bees,
And life is sweet and love is dear
When June shows skies of azure clear.

A distant sound of rippling brook,
That bends and curves like shepherd's crook,
And in its depths the minnows swim,
Their shining sides like silver dim,
And life is sweet, and love more dear,
When June shows skies of azure clear.

We see a field and grazing kine,
We breathe the air like mild, sweet wine,
And dream of life when love was young,
And Eden's flowers eternal sprung;
For life is joy in sweet June time,
All nature sings in rhythmic chime.

Love is the key that makes life sweet,
A love so strong, so broad, complete,
That we can scarcely understand
The waving of the mystic wand;
For God is Love, and love is sweet,
'Tis this that makes life's June complete.

Rose Seelye-Miller.

THE CULTURE OF THE CALLA.

"From large green leaves my calla lifts
 A tapering chalice proud and high.
* * * * *
My calla lifts its curled brim,
 No hint it gives of magic art,
And still the odor faint and dim,
 Steals upward from its golden heart.
Oh, stately blossom, by your side
 Another bud but half unrolled
Keeps yet the secret of its heart
 Enwrapped within a sumptuous fold.
The promise of the future bloom,
 The beauty of the expanded flower,
The warmth and shelter of my home,
 Make bright the winter's dreary hours."

Richardias, we term them (correctly speaking) in these *fin de siècle* days; albeit our grandmothers would not recognize the sterling old calla lily as Richardia Africana, the scientific name now generally recognized by modern botanists. But, when all is told, "What's in a name?" The so-called calla is neither a calla nor a lily.

Many amateurs begin the cultivation of the calla (we may as well retain the old name) with a great store of enthusiasm, but do not study the requirements of the plant,—its adaptability as to soil, location, etc. Amateurs should rid themselves of the fallacious belief that success with callas, or indeed with any plant, is in any sense a matter of "luck." An awkward compliment (for which one does not feel properly grateful) often paid to a successful flower-grower is, "How lucky you are," when they see that which is really the result of personal watchfulness. Investigate the methods of a successful flower-grower.

Such an one does not depend on "luck," but upon the practical knowledge of the plants, gained by observation of their requirements. In studying the habits of plants, one cannot fail to observe that almost without exception each has its individualities and peculiarities, and, in a limited way, they are almost like people. Many amateurs try, ineffectually, for years to make a calla produce a blossom, and then give up in despair. These failures are usually traceable to wrong ideas regarding its characteristics and requirements. The main necessities are heat, plenty of rich food, drink, and a season of absolute rest. Callas are strong growers and gross feeders, and the quantity of bloom in a measure depends upon the maturity of growth. It is a native of a warm climate and is semi-aquatic in character. To have a calla blossom to perfection during winter a season of rest is absolutely necessary. In April, May or June, according to localities, take the pots containing the tubers and turn them on their sides in some sheltered location, where they will be undisturbed, and allow them to remain during the summer months, giving no attention whatever. The yellow leaves will shrivel up and the earth in the pots will bake to the consistency of bricks,—do not fear that such treatment will injure the tubers. In September shake out all the earth and remove the tubers. If they are to be repotted in the same pot, wash the pot thoroughly in soap suds, with a stiff brush. Repot in fresh soil, using a strong and lasting one, composed of well-decayed manure, turf loam and fibrous peat in equal proportions, and some sharp sand to render the soil friable. The soil should be well enriched, but not heavy. Give good drainage—small lumps of charcoal is the best—otherwise the soil will become sour, and in consequence the roots decay. If the tuber is large use a seven- or eight-inch pot, although several tubers in a pot give satisfactory results and are more effective. The tubers must be placed near the surface of the soil, as if deeply imbedded they rarely produce blossoms, and throw up slender, weakly foliage. Water thoroughly after potting, and then only sparingly until growth is established. As soon as the leaves appear, and are growing thriflly, place the pot containing the tubers in a jar (or any vessel capable of holding water) one size larger than the pot; every day fill this outer vessel with very hot water, to within half an inch of the top of the pot containing the tubers. Allow the water to remain until cold, then empty the jar, and the next day repeat the process. The tubers will draw all the moisture required through the drainage hole,—always provided the drainage is ample, an essential feature to success. Once a week withhold the hot water, and water with liquid manure. The result of this treatment will be luxuriance in foliage, and large, rich scrolls of creamy white, with their golden spears rising from the center. After the bulbs cease to blossom, a less amount of water will be required, yet a sufficient quantity must be given to promote a vigorous growth of foliage. When the growth has been completed, as the yellow leaves will give evidence, gradually withhold water and allow the tubers their season of rest.

If the callas are required for summer blooming reverse the method, allowing the tubers to lie dormant during the winter months, securely protected from frost. They may be bedded out in summer, and will bloom at intervals until King Frost lays them low. They form a desirable and handsome border to the aquatic garden, where under the fierce rays of the summer sun

the water will become almost hot. But water they will and must have and a season of absolute rest, if blossoms are to be produced by them.

Little Gem calla, the late novelty in floriculture, is well adapted to pot culture, as its perfect and dainty little blossoms and dwarf foliage are lovely. It has, however, proved a delusion and a snare to many amateurs, owing to the fact that the tubers seldom bloom until they attain

emphatically summer flowering varieties. The bulbs may be stored during winter, like gladiolus, in a frost proof place. They may be grown in pots or bedded out, but require deep planting, as the fleshy annual roots are thrown out from the crown of the tubers; like all the so-called calla family, they thrive best with an abundance of water and sunshine. The spotted calla bears a resemblance to the common calla, but is smaller in both

foliage and flower. The foliage is graceful in appearance and delicately colored; the leaves are arrow-shaped, long and narrow, of a deep glossy green, irregularly covered with white, almost transparent, spots. The blossoms have a greenish tinge, which mars their purity of color. Bedded in combination with highly colored fancy foliage plants, such as the fancy leaved caladiums, with crimson or pink shadings, or the stately ricinus, with bronze, purple or deep red foliage, the effect is grand.

These plants, like the calla, produce the best results in rich soil and an abundance of water and sunshine. Grown in jardinières and brought in as occasion demands, the spotted calla forms a decorative plant for indoors. A handsome jardinière with a mass of this dainty calla, with its graceful, silvery-spotted foliage rising from the center and surrounded by the pretty drooping Fittonia tricolor, with its beautifully striped leaves of red, white and yellow, was an object of admiration and very effective in appearance.

R. hastata is also somewhat dwarf in habit, with handsome glossy green foliage, which forms a marked and pleasing contrast to its lovely golden yellow blossoms. It is of the same nature, and requires the same treatment as the spotted calla, and is at its best in a moist, well drained soil, fully exposed to the sun.

E. M. LUCAS.

SPRING AND SUMMER IN MY GARDEN.

I HAVE read that the snow drop is due in March,—it would have to bloom under the snow, if at all, here and now. Today (March 13th) the drifts are higher than at any time since winter began.

A Japan quince is trying to keep its topmost twigs above the pure new banks; a stout young hemlock, ten feet high, bowed at first by a load of frozen rain, has now disappeared in the drift. After every night of storm the leaves and twigs from the fir balsams and pines trail away to leeward, while the mercury hovers near zero. A few crows have been seen, but one or more crows do not make a spring, apparently. With such an outlook the gorgeous catalogues, overflowing

with glowing flowers and fruits, seem an immense joke. Lashed by the almost tireless wind and its clouds of snow-dust, the sun often invisible for days, while the drifts steadily climb towards the moon, growth and bloom seem an incredible tale,—and I say again, as so often before at this season, that no one but a fool would continue to live in such a country. A garden indeed! More likely evolution will produce an Esquimaux.

March 30th. A day of almost summer heat, with southern breezes, a flood of sunlight and rushing waters. Some fields are bare already, and here two cactus plants from Oklahoma, set last year, have come to light in good condition, apparently, after all the zero weather. One is a little globular *Mammillaria*, an inch or two through, nestled close to the earth; each of its many tubercles bears a radiant crown of spines almost hiding its real structure. Last August a great flower bud arose from its summit, swelling and growing for a long time. Its petals sharpened in the bud to a long point; had nearly the tint and texture of an *acroclinium* flower, and it always waited till 2 P. M. before it opened. At 6 P. M. it closed so accurately that I could hardly believe it had ever flowered at all, until others told me they saw it open, an immense flower for the size of the plant,—as if a plant of sweet alyssum should bear a pumpkin blossom. No fruit was at-



RICHARDIA ALBA MACULATA—SPOTTED CALLA.

their third season's growth. While young the tubers may be kept growing continuously,—that is, no resting period given. When they attain a blooming size, give treatment as described on preceding page, and they will yield blossom in the greatest perfection and profusion. The young tubers must be properly developed; they require an occasional repotting in fresh soil, and sufficient fertilizer to meet their requirements. This is a matter that must force itself upon the attention of the grower, as no given rule may be followed. If, as sometimes happens, the plants give evidence of requiring a rest, withhold water gradually, and allow them to become dormant. After a few months repot and treat as before. With a fair chance and fairly good culture the Little Gem will bloom when three years old, but neglect will retard its blooming powers. This dainty "Little Gem" cannot be too highly recommended; a first or even a second failure should be taken philosophically, and when success is attained it will fully repay for all disappointments. Its miniature little blossoms are especially adaptable to table decoration.

Another variety of calla, *R. nana compacta*, is not so dwarf as Little Gem, but it is a desirable plant, producing small blossoms of a creamy white color. It blossoms freely and is a universal favorite for winter blooming or for cut flowers.

The "Spotted Calla," *R. alba maculata*, and the "Yellow Calla," *R. hastata*, are



RICHARDIA ETHIOPICA—COMMON CALLA.

tempted, but several dormant flower buds are biding their time.

The other cactus is a prickly pear (*Opuntia*), with spines two inches long; it had two great yellow flowers, as large in proportion to the present size of the plant as the *mammillaria*'s, succeeded by long green fruits, which still remain and will ripen, perhaps, this season. There was a cloud of golden stamens, and if one of them, was touched, however lightly,

they all felt it at once, huddling into one or more close groups, like a flock of frightened sheep,—as interesting a sensitive plant as the one commonly called so. Late in the fall I put two large stones close beside them, the plants being in the crevice between them; this is a good sort of protection; a pair of bricks will shelter a little plant nicely in this way.

April 9th. The drift in the yard, once eight feet deep, is no more than four now, and part of the ground is bare. Grape hyacinth, chionodoxa, narcissus and daffodils are in sight, the crocuses are still under the snow. I bloomed a dozen of the large yellow crocus last year,—the last growing best, and hardiest, of all the crocus class, perhaps; it seemed so to me, at least. Each bulb had ten or a dozen flowers, in quite a long succession, making a mass of the brightest orange for many days. In the later summer I took them up, brought a fresh supply of manure and dirt, and divided and re-set them. They had increased in number to thirty-four. If they keep on at this rate I shall have a good bed in time.

The white and purple crocuses with me almost seem as if formed of tissue paper, somewhat rumpled at that, so weak and flaccid are they. The yellow sort has substance in its petals and backbone in its constitution.

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SOME FINE DECORATIVE PLANTS AND HOW TO GROW THEM.

THE chief requisites for growing fine plants at this season, either for summer blooming or decorative purposes during the following winter, are a sheltered location in the open air and a systematic application of water both at the roots and overhead. Plants growing in the open ground seem imbued with new life after a refreshing shower, simply because the pores are washed free from dust and their breathing capacity increased. In imitation of this a daily showering of most plants means life, health, vigor, and, in their season, unlimited bloom. I have found no place better for the establishment of young plants, in late spring, after warm weather has become a certainty, than the north side of a low hedge, or an east porch. For plants which delight in much shade, the north side of a building is better. In any and all of these locations I have grown to perfection begonias of all classes, primulas, palms, cyclamen, gloxinias, and various others. All of the varieties mentioned do their very best on the north side of a building, with the exception of flowering and tuberous begonias; these do better in a well protected east exposure, or north of low growing hedge or shrubbery where a greater supply of sunshine is received.

For any of the plants which comprise my list, let the soil be composed of equal parts of leaf mold, well rotted turfy loam, and sharp, coarse sand; employ clean

pots with perfect drainage; the latter is secured by placing a flat piece of broken crockery over the drainage hole and following with an inch layer of broken crockery, pebbles, or, better still, charcoal. A word of caution here: Avoid pots with saucer attached and with drainage hole in the side of the pot, as they afford poor drainage and are more liable to become clogged than those with bottom drainage, which are always preferable. Provide a low table or bench having a ledge three or four inches high upon all sides; fill this with sand, and in this plunge the pots; the plants must not touch each other, and if the sand is kept perfectly saturated and the plants are thoroughly showered every evening after the sun leaves them they will need no other watering, and will completely outstrip, both in foliage and flower, plants that admit bedding out. I have secured equally good results, with a wide range of tender plants, by placing the pots directly upon the sod, along the north side of a hedge perhaps five feet in height. Here they received the best sunshine of the day—the early morning and the late afternoon—an ample supply for this class of plants.

Among the many charming plants of recent introduction the Otaheite orange is most unique; with its dark, glossy, green foliage alone, it is a plant of unusual beauty, but when, in addition, it loads itself with true, fragrant orange blossoms, followed by a profusion of bright, miniature oranges, it constitutes a beautiful specimen indeed. It is a dwarf orange, and a plant not more than six inches high will bloom and fruit in a three-inch pot. I have one not more than ten months old as thrifty as an oak, blooming and fruiting in a five-inch pot, and likely to remain in its present quarters for some time to come, as it is far from being root-bound. It blooms most freely during winter, and for this reason should be well and symmetrically grown during the summer preceding. The blossoms are pure, pearly white; the outside tinged with soft pink, the color of the buds when grown in full sunlight. It is no unusual sight to see a plant bearing a load of ripened fruit, supplemented by a succession of lovely pink buds and creamy blossoms of the most delicious fragrance. Procure a young plant in the spring, fresh from a reliable florist. Mine never acknowledged it had been transplanted. It was given the semi-shade position described above, showered twice a day, and scale never troubled it. Blossoms came speedily, and all through the winter it has had a place close to the glass in an east bay window, with daily showerings, and it continues as beautiful and thrifty as ever. A moist atmosphere is a necessity.

The Primula or Chinese primrose is a necessity for next winter's flowerings.

Ask what florist you will to suggest a fine houseplant, and the Chinese primrose will be among the first named. It is among the most reliable of winter bloomers, beautiful in leaf, lovely in flower, and continuing in bloom for months at a time. If you are expert at growing greenhouse flowers from seed, it is a very inexpensive way of securing a choice collection. Be sure to include *Primula obconica* in your list. Well grown plants of this variety will begin to bloom in the two-inch pots in which they are first potted, and continue for ten and twelve months without intermission. The flowers are formed in umbels thrown well above the foliage—pure white, tinted pale lilac, and altogether distinct from other primulas. Seed should be sown the latter part of April. Shallow boxes, four inches deep, and well secured at the corners are most suitable, and must have several small holes bored through the bottom for drainage; cover the holes with flat pieces of broken crockery and add an inch layer of charcoal for drainage; cover this with two and a half inches of such soil as before given, running it through a coarse sieve; jar the box to settle the soil; mix the seed with sand and scatter evenly over the surface; place the box in a pan of tepid water until the moisture is seen coming through the surface, then remove to a sunny window, tilting the box toward the sunshine and keeping it covered with a pane of glass. Never allow the soil to become dry, but at the same time avoid over-watering. When necessary to moisten the soil place the box in a pan of water as at first, watching it closely and removing it at the first indication of moisture upon the surface. The temperature of the room should not fall below 60° at night, and should never fall below 70° during the day. In potting, mound the soil in the center, keeping it always lower at the rim of the pot, so that the crown of the plant may not become wet in watering, else decay will set in. As soon as the roots fill the small two-inch pots, shift into one a size larger, and so continue as necessity requires, ending with a five-inch pot. Shower the plants daily in their out-door location until buds appear, and then discontinue or the buds will rot. When brought into the house after their summer's outing, give the plants a cool window with plenty of light, but very little sun. A north window suits them best. Water them every other day and see that the water goes clear through the pot. The best plan is to pour tepid water into the saucer, and as soon as the moisture is seen coming through the surface, pour out what remains.

The cyclamen is another lovely flower, a beautiful addition to our collection, and requires the same shady location and treatment given in general directions. The plants are very easily raised from the

seed, which should, however, be sown in February or March to secure plants for late winter blooming; employ the same treatment given for primulas, except that the seed being coarser, should have a very light covering of soil. In transplanting the bulb should be but half buried in the soil. Unless it is possible to make very early sowings it is better to procure fine, healthy bulbs from the florist, pot as directed above, and water sparingly until started; or, better still, procure from the florist strong bulbs already started. Given the summer treatment described they will develop into vigorous plants which will bloom all winter and far on into spring time. The foliage is very beautiful, heart-shaped, and shaded and marked in a most charming manner. The flowers are rare in form, and exceedingly lovely in coloring, ranging from pure white on through pink and crimson, while many are white with rich and rare dashes of color. These plants, as well as the primula, are better watered through the saucer.

Tuberous begonias may be added to this list and given the same general treatment. It has been my experience that they yield far better results if kept in pots in a semi-shaded situation than when bedded out, and they fairly revel in the most liberal showerings. Their foliage is lovely in itself—crisp, glossy, and luxuriant, and when to this is added their free blooming qualities, they form plants unsurpassed for decorative purposes. When pot grown they are available whenever or wherever beautiful plants are in requisition, and when their temporary reign is over may be returned to their home quarters to remain until again in demand. We find them in pure white, golden yellow, pink, scarlet, and crimson. Start the tubers with a gentle bottom heat. A good way is to pack them between layers of moss wrung from hot water, and keep at a temperature of about 60°. As often as the moss requires it, wring it, as at first, from water slightly hot, and when the spine-like sprouts appear the tubers must be potted with spines uppermost, as they are sprouts and not roots. In the absence of greenhouse facilities the hot water reservoir of the stove answers every purpose. My experience has been that tuberous begonias keep better over winter if left in their pots of soil until needed for another season's blooming, when the soil may be sparingly moistened until the tubers are plumped and sprouted, when they must be repotted in fresh, rich soil. MRS. A. H. HAZLETT.

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CULTURE OF AMARYLLIS.

THE care required to grow an amaryllis is the slightest that it is possible to give a plant. No other plants are so easy to cultivate as these beautiful bulbs, and no others can be relied upon with

more certainty of success. Their wants are few, but, such as they are, they must be supplied. A little study will make us familiar with their needs, and with but little care we may have an abundance of the beautiful lily-like blossoms.

Their first need is a small pot. Often we see a pot only twice the size of the bulb recommended, but whether there is a rule regulating the size of the pot or not, it is quite certain that they blossom better when pot-bound, and this condition is soonest arrived at with a small pot. It is not necessary to entirely cover the bulb; it may be set deep enough to cover the swell and leave the upper part and the long neck above the soil.

Another important point in amaryllis culture is that the bulbs require a period of rest, alternating with a season of growth. The resting season usually extends from October or November to March or April, or even longer; but this is regulated somewhat by the wishes of the cultivator. Not only is this rest of great value to the bulbs, but the pots may be set away in the cellar, out of danger of frost, where little or no care is required until the growing season begins. None but the evergreen species will need water, and they only enough to keep the large, fleshy roots from dying. If kept in the living room during winter, as soon as the growth ceases and the foliage begins to turn yellow, withhold water until a new leaf makes its appearance, then water freely.

It sometimes seems hard to put the pots full of pretty green, away in the dark to pass the long winter, but this severe treatment means a greater abundance and more beautiful blossoms during summer; and we need not fear for our cherished bulbs; nor, for a matter of sentiment, should we hesitate to insist that they take a rest.

Brought out in the spring and watered thoroughly, the appearance of a bud is often the first sign of growth. It is not pleasant to see a bunch of buds pushing itself up out of the soil without a setting of beautiful green leaves, but it is often the case that these beautiful lily-like flowers will unfold above a seemingly dead bulb. While the buds are growing and opening they should be allowed all the water they will take up from the saucer; oftentimes it will be necessary to fill it the second time during the day. An occasional dose of manure water will be beneficial.

After blooming the bulbs should be encouraged to make a vigorous growth, for the buds that next year will unfold to us their wondrous beauty are formed during this year's growth, and it is for this reason that the plants should be fed to their full capacity.

The amaryllis may be grown in pots the entire year, or bedded out during the summer months, but if set in the ground

they must be lifted before the first sign of frost and potted for the winter. Many sink the pots in the bed, and find the method satisfactory, as the roots are less injured than by potting from the beds.

Do not repot amaryllis oftener than really necessary, as they greatly object to being disturbed, and often they do not blossom for a year after being repotted. When the growth begins, remove some of the upper soil, without disturbing the roots, and replace with fresh soil mixed with manure; this, and the weekly supply of manure water, will keep them in fine condition for several years. One of the finest plants of amaryllis I ever saw was treated in this way, the only difference being that only earth enough to slightly cover the bulb was placed around it and the remaining space filled with manure alone.

One thing that will recommend the amaryllis to the flower-lover is the long life of the bulb and its increasing usefulness from year to year. Another is that it is almost sure to bloom; and still another, that it does not require constant petting to induce it to favor us with a glimpse of the beauties hidden away in its heart. Insects or disease rarely trouble the plants, and they may be put out of the way for several months at a time when they have no great beauty, and thus allow us more time to devote to other plants.

N. WILLIAMS.

Allegan, Mich.

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NEW LAWNS.

In this region the only rain that April brought was a light shower or two, and now May is passing without a drop of water falling. The prospect for newly sown grass lands is very poor. We may have rains later that will help the situation, but the stand of grass cannot be strong even on old lawns and meadows, and newly seeded grounds can, at the best, be only partially successful. There is no question that the best time to seed a new lawn is the last of August or early in September. In favorable springs, when showers have been frequent, we have seen lawns sowed the latter part of April and first of May and make a very good appearance by July, but one always takes more chances in seeding down in spring than at the close of summer, or in early autumn. At that season showers are almost sure to come, and if the grass starts it has several months to grow before freezing weather checks it, and has the opportunity to become well established before spring, at which time it is ready to push a strong growth.

Too much care cannot be taken in the preparation of lawn ground for seeding; deep working, and thorough pulverizing, and efficient fertilizing, are the points to be aimed at, and if these are secured the establishment of a good sod is almost ensured.

ROSE GROWING.

 O those who see the actual operations of the plant trade it is very apparent that more and more roses are planted every year; that of all garden plants the rose is the most admired; that we should be a nation of rose-growers if roses would grow wherever they are planted, and with only ordinary attention. How perverse the rose does seem, and how exacting its demand, notwithstanding our countrymen and countrywomen have such trusting confidence in it,—especially those who are inexperienced and have never tried to raise it, but having come into the estate of a garden plan first of all for roses,—bush roses and climbing roses, roses white and roses red and fragrant as those of the "Vale of Cashmere." And then to suffer so grievous disappointment! To see them blight and mildew, to see worms devour the leaves and infest the buds, and plants from which so much was expected, and which which at first appeared ready to fulfill all our hopes, droop and wither, and, after a year or two of miserable existence, utterly perish, a prey to insects and fungi and frosts.

But, oh, what a glorious plant is the rose! How the bush grows and spreads; how it forms a bud on every shoot and covers itself with a mantle of bloom of loveliest color and texture and fragrance. How it clammers on yonder wall and around those pillars and unfolds its blooms, displaying grace and beauty in every curve of its petals and every outline of its leaves. Who that has a garden would not have roses! But roses cannot be had except by giving them the attention they need, and providing them with suitable quarters. Roses will grow in sandy soil, in gravelly loam, and even in quite heavy ground, provided it is well drained and frequently worked. But wherever planted, they must have plenty of available plant food. There is nothing better for the purpose than well-rotted stable manure. There is no danger of getting too much of it, but it must be well worked into the soil. In the absence of this material use some good fertilizer, or a little nitrate of soda and some bone meal.

And now the selection of varieties to be planted must be made, and this is where mistakes are very apt to occur and to produce disappointment. One says "I

want roses that will keep in bloom all summer and that are hardy." Another says "I want climbing roses that will bloom all the season through." How delightful it would be if we had roses that would bear the cold of our winters and bloom all through the summer months. Unfortunately just such roses have not yet been produced, and in our cold regions one of the most important points in a rose is its ability to withstand frost.

The Tea and Noisette and Bourbon roses are the most continuous bloomers, and the Tea roses are the most fragrant, but they are unable to stand many degrees of frost. Desirable as they are, we are, nevertheless, obliged to give them less attention than some that are hardier. Those which nearest approach the Tea varieties in their admirable qualities of form, fragrance and color, and at the same time are much more hardy, are what are called Hybrid Perpetuals or Remontant roses. These bloom freely early in summer and afterwards give more or less

in the window. In a window enclosed with sash, and thus shut off from the adjoining room, roses may be very well raised during winter. With proper care one could also raise Tea roses in a cold-frame, employing sash in summer only when a cold storm might demand it, and in autumn and winter covering also with shutters and mats, first filling between the plants in late autumn with dry leaves. Those of us who love Tea roses well enough, and have not greenhouse facilities, may take this course. But with the beautiful Hybrid Perpetuals and the Polyantha roses, and the many other kinds which are hardy, one may be content with three months of Tea roses.

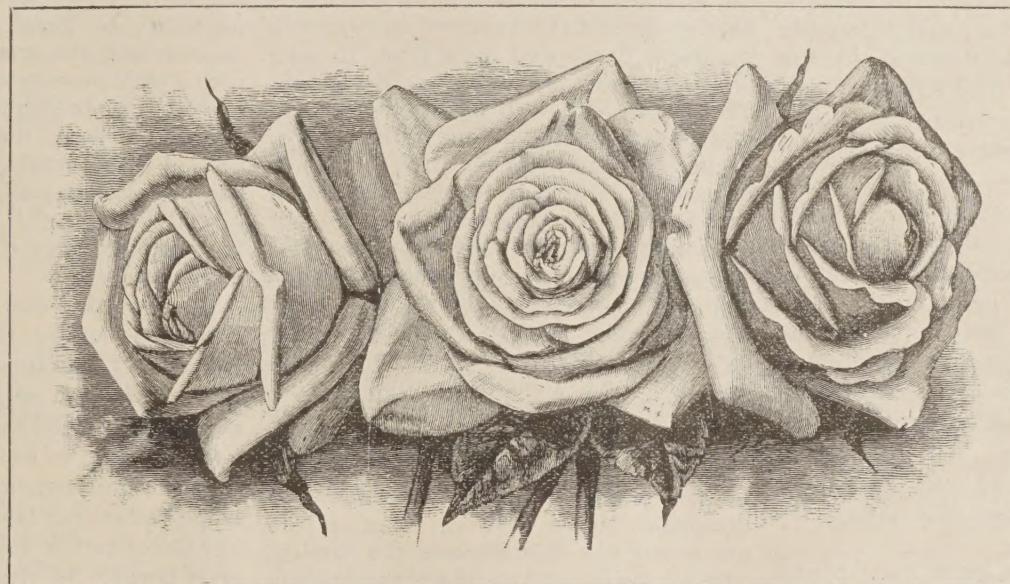
In this region and all through the Northern States the only climbing roses which have been cultivated and can be relied upon for their hardiness are the varieties originated from the prairie rose, *Rosa setigera*, a hardy native species. Of these Baltimore Belle and Queen of the Prairies have been the main reliance for more than fifty years. When, therefore, one demands a hardy and continuous blooming climber it has been possible to make but one reply, that there is no such rose.

Shall we ever have one? Will Crimson Rambler fill this place? The few and imperfect tests already made with it are encouraging, but a year or two more will be needed to decide whether it is quite

hardy on walls and trellises. If it is found to be so, it will be very extensively planted, for it will probably be found to bloom at least twice in the season.

A variety called the Empress of China has been sent out in a limited way for a year past, which is said to be a continuous bloomer; but, like the Crimson Rambler, it will require another year to learn if it can be wholly relied upon in our climate where 10° or 20° below zero in temperature is reached nearly every winter. This Empress of China is said to have been brought from China; claimed to be a vigorous grower with handsome foliage; flowers of medium size, graceful in form, quite fragrant, of a light red or pink color, somewhat like that of an apple blossom; a profuse bloomer and giving its flowers all summer. These are excellent qualities and will make this rose a very desirable one, if the facts bear out the claims made for it.

Another climbing, running or trailing rose deserves prominent mention. This



bloom in August and September. With such protection as can be given, the Hybrid Perpetuals will live through our winters and give bloom for years. There have been some crosses, also, made between these and the Tea roses, giving rise to some varieties that are called Hybrid Teas; these approach still nearer to the latter and yet have much of the hardiness of the Remontants.

The little Polyantha roses also have two seasons of bloom during summer. All other kinds, without mentioning them particularly, bloom but once in the summer season. Thus it will be seen how vain is the dream of everblooming roses that are hardy in our northern country. In the far south, the Gulf States, and in Southern California they flourish to the heart's content. At the north we can raise them under glass, or we can plant them in beds for the summer and enjoy them for the season, and then let them perish, or take them up and winter them in the cellar, or pot them and keep them

is one called *Wichuraiana*. Naturally its stems run along on the ground, and take root at each joint. The leaflets are small, with much substance, dark green, shining as if varnished. The flowers are white, and single. As a plant for cemeteries, rockeries, and for training on embankments it is an ideal one. If it is trained up it may also be made to run over an archway, forming a very handsome object. The writer saw one trained in this way last autumn at Dosoris, the grounds of Charles A. Dana, which had been under the care of Mr. Wm. Falconer. This is a Japanese variety which will find a permanent place in our gardens, cemeteries and parks, as it is quite hardy.

In regard to the diseases and the insects of roses it may be said that they need have no terror to one who will learn how to manage them and is willing to give them the necessary care.

NARCISSUS IN THE GRASS.

Mr. William Robinson, horticulturist, and editor of *The Garden*, of London, England, recently read a paper before the Daffodil Conference, held in that city, the subject of which was The Artistic Planting of the Narcissus. A report of this paper is made in a late number of *The Gardeners' Chronicle*. The planting of these bulbs is advocated not only for the garden proper, but in the grass; in lawns and meadows and grassy orchard grounds. After showing that the narcissus is a hardy plant, having "for companions the violet and cowslip, hardiest children of the north, blooming in and near the still leafless woods," he concludes that it is not only a garden flower, "but one which may give glorious beauty to the woods, and fields, and meadows, as well as to the pleasure ground."

"In our country in a great many places there is plenty of room to grow them in other ways than in the garden proper, and this not merely in country seats, but in farms and orchards and cool meadows. To chance growth in such places, we owe it already that many narcissi or daffodils which were lost to gardens in the period when hardy plants were wholly set aside for bedding plants, have been preserved to us, at first probably in many cases thrown out with the garden refuse. In

many places in Ireland and the west of England, narcissi lost to the gardens have been found in old orchards and like places. If we plant groups of those kinds we have to spare in the grass, and any wave of fashion should, unhappily, affect the narcissi in the garden, our descendants may find them faithful as native flowers in the grass long after the Barrs, and Burbidges, and Hartlands, and others, who have done so much for the flower in our own day, have left their narcissus grounds for, let us hope, the Elysian fields.

*** Three months after our native kind has flowered in the weald of Sussex and in the woods or orchards of Normandy, many of its allies are beneath the snow in the mountain valleys of Europe,

waiting till the summer sun melts the snow. On a high plateau in Auvergne we saw many acres in full bloom on July 16, 1894, and these high plateaux are much colder than our own country generally. Soils that are cool and stiff, and not favorable to a great variety of plants, suit narcissi perfectly. On the cool mountain marshes and pastures, where the snow lies deep, the plant has abundance of moisture—one reason why it succeeds better in our cool soils. In any case it does so, and it is mostly on light dry soil that narcissi fail to succeed. *** I planted years ago some Bayonne daffodils on the northern slope of a cool field, and thought the plants had perished, as so little was seen of them after the first year. Despairing of the slope, it was planted with alder, a tree that grows in any soil or water. Years afterwards, walking one day through the alders, I found the Bayonne daffodil in perfect bloom. The roots had doubtless been weak, and taken time to recover.

"If the soil be right, all that need be done in planting is to make two cuts with the spade, raise the sod, put a few bulbs beneath it, again turn the sod down, firmly trample it down, and leave them to take their own way ever afterwards. It will often be well to turn up all the sods at first so as to see the outline of the groups. Eight years ago I planted many thousands of narcissi in the grass, never doubting that I should succeed with them, but not expecting I should succeed nearly so well. They have thriven admirably, bloomed well and regularly; the flowers are large and handsome, and in most cases have not diminished in size. In open, rich, heavy bottoms, along hedgerows, in quite open loamy fields, in every position they have been tried. They are delightful seen near at hand, and also effective in the picture. The leaves ripen and disappear before mowing time, and do not in any way interfere with the farming. The harrowing and rolling of the fields in the spring hurt the leaves a little, but the plants are free from this near wood walks and open copses and lawns which abound in so many English country places. The great group of forms of our large native daffodils gave good results; they thrive better and the flowers are handsomer than those of the wild plant. The little Tenby daffodil is very sturdy, pretty, and never fails us.

"A very delightful feature of narcissus meadow-gardening is the way great groups follow each other in the fields. When the Star narcissi begin to fade a little in their beauty, the Poet's follow.

"As to the kinds we may naturalize with advantage, they are almost without limit, but generally it is better to take the great groups of the Star narcissi, the Poet's, and the wild daffodil, of which there are so many handsome varieties. We can be sure that these are hardy in our soils; and, moreover, as we have to do this kind of work in a bold and rather unsparing way, we must deal with kinds that are easiest to purchase. ***

"The fine distant effect of narcissi in groups in the grass should not be forgotten. It is distinct from their effect in gar-

dens, and it is most charming to see them reflect as it were, the glory of the spring sun. It is not only their effect near at hand that charms us, but we may see them in the distance in varying lights, sometimes through and beyond the leafless woods or copses. And there is nothing we have to fear in this charming work save the common sin—overdoing. To scatter narcissi equally over the grass everywhere is to destroy all chance of repose, of relief, and of seeing them in the charming ways in which they often arrange themselves. It is almost as easy to plant in pretty ways as in ugly ways, if we take the trouble to think of it. There are hints to be gathered in the way wild plants arrange themselves, and even in the sky. Often a small cloud passing in the sky will give a very good form for a group, and be instructive even in being closer and more solid towards its center, as groups of narcissi in the grass should often be. The regular garden way of setting out is very necessary in the garden, but it will not do at all if we are to get the pictures we can get from narcissi in the turf. Whatever we do, it is always necessary to keep open turf here and there among the groups; and in dealing with a wide lawn or a meadow, we should leave a large breadth quite free of flowers. Bearing all these things in mind, it may be said with confidence that no one who has not seen it well grown and happily placed in the wild garden knows what the narcissus may do for our lawns and home landscapes."

The varieties that are grouped in our catalogues under the title of "Single Narcissus" are those most adapted to succeed in the manner proposed, and should be planted freely. The feature in bulb-growing, so well described above, is worthy of acceptance, and may well be employed on our lawns, and especially in city parks and in suitable places on cemetery lawns. To some extent the practice of planting crocus bulbs in like situations is now in vogue, and happily the practice, we think, is extending. The use of the narcissus in the same manner would be a decided gain, in point of beauty.

CHESTNUTS.

The American chestnut has the sweetest kernels, but are smaller, and the trees must be some fifteen or more years from the seed before they bear. The European, or Spanish chestnut, has nuts nearly double the size of the American, but are tamer in flavor. But the trees will bear at about ten years from the seed. The dwarf Chinquepin chestnut will often bear the second or third year from seed, but the nuts are so small that they are not in general use. The Japan chestnut is a comparative dwarf, though a stronger grower than the American Chinquepin—but the nuts are as large as the European chestnut, with about the same taste: like the Chinquepin, they bear early. But all the kinds bear early when grafted from bearing trees.—*Mechanics' Monthly*.

Letter Box.

In this department we shall be pleased to answer any questions relating to Flowers, Vegetables and Plants, or to publish the experiences of our readers. JAMES VICK.

Cabbage Worms.

Having received so much valuable information from your Magazine I will take the liberty of sending a tried and sure recipe for exterminating cabbage worms: Five pounds air slacked lime, five pounds copperas, dissolve in twenty gallons of water; apply with a syringe. It also acts as a fertilizer.

Argonia, Kan.

MRS. N. E. P.

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A Cheap Ground Basket.

I saw descriptions of flower baskets for gardens in one of your Magazines. I will describe one, pretty and easy to make, which may please your readers: Take a barrel, saw in two in the middle, take out both heads; these will make two baskets. Set small end in the ground to more than half the depth of the staves, and pack grass sods or any growing moss around the sides to the top; bend one-half of hoop to look like a handle and wind with wood's moss. Fill the space with rich earth and set with flowering plants and trailing vines.

MRS. A. H.

Syracuse, N. Y.

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Bleeding Heart.

Please tell me through the Magazine how to manage Bleeding Heart as a house plant. The one bought from you three weeks ago has three exquisite sprays of flowers. Is its blooming season over now and should it be allowed to die down in the fall, after after growing all summer in the pot?

Alger, Mich.

MRS. J. W. D.

The Bleeding Heart, or *Dicentra spectabilis*, is a hardy perennial plant and should be planted out in the garden, where it will grow and bloom for many years.

++

Palm not Thriving.

Can you tell me what to do with the palm, *Areca lutescens*? The leaves turn black at the ends. I put the plant in rich garden soil, mixed with sand, and set it out doors. What kind of treatment should I give it?

T. A.

Carlyle, Ill.

A newly potted palm is not in good condition to set out doors. It should have been shaded, at least until it had become established in its new quarters. Water should be given sufficiently freely to wet the ball of soil, but until growth starts it will be best to be on the safe side with water and give it only when the soil begins to appear little dry. It seems unnecessary to say that the pot should have good drainage, so that no water shall remain soaking the roots.

++

Wire Worms.

Please tell me what will destroy wire worms working at the roots of roses.

MRS. F. W. P.

West LaFayette, Ind.

Wire worms can be killed by the use of Paris green, London purple, or arsenic; sprinkle either of these on fresh clover or lettuce or cabbage leaves, and place them near where it is known the worms are. Sweetened corn-meal made into a dough with water, and having some of either of the arsenites mentioned mixed with it, is attractive to them. If the cause of the mischief is the grub of the May beetle they will not be caught in the same manner. About all that can be done to be rid of them is to dig the ground carefully for some distance about the plants and exam-

ine it carefully and catch and destroy all grubs found.

++

Garden Carnations.

Will you please give me a few directions how to make carnation pinks hardy and bloom? The carnation sets I got last year came up well, but I could not obtain stocky plants, neither could I get many blooms. I think all would have been right had I understood the care of them better.

H. V. P.
Worcester, Mass.

The garden carnations and pinks are sufficiently hardy. The seed should be sown early, and the seedlings transplanted into a piece of strong, rich soil, and encouraged to make a good growth. Occasionally the ends of the shoots should be pinched to make them branch more freely. In late autumn place leaves between and around the plants, thus affording them some protection, and also prevent the frost from heaving them. The following spring they will all bloom.

++

Clerodendron.—Begonia.

Will you kindly tell me how to treat my clerodendron? It is two years old, nice and thrifty, about six feet high, but does not bloom. Does it want sun or shade, warm or cool, wet or dry, and what time in the year does it bloom?

I also have a seedling begonia, a cross between McBeth and Vernon; it looks like McBeth, except the leaves are silver spotted, and the blossoms are white, spotted and dashed with crimson. I think it is a novelty, as I do not remember seeing such an one advertised.

MRS. J. S. S.

Hepler, Kan.

The clerodendron cannot be considered an ideal house plant. We are not informed what species is enquired about, but with proper treatment it should be in bloom in summer. Probably the best thing to do, in this case, is to set the plant out in the open ground in a spot as well sheltered as possible from heavy winds. Give a regular supply of water and occasionally some liquid fertilizer.

++

Scale on Lilac.

I send you a twig by this mail. There is large branch of my lilac that is one solid mass of this scale. I never saw anything like it and would like to have you say in the Magazine what it is. Would the use of kerosene emulsion on the bush kill those coming on other parts?

MRS. P.

Harnbrook, Pa.

The specimen referred to was not received by us. However, the probability is that the insect is the scale. The use of kerosene emulsion as proposed is the proper course. But the lilac is a rapid grower and if the infested branch is not too important we would cut it away at once and burn it, and expect that the bush would soon send out a growth that will balance it and take the place of the branch pruned away. Then we should thoroughly wash the rest of the wood, using a brush and the emulsion. If it is thought best not to cut off the branch it must be washed and scrubbed until clean.

++

Hardy Climbing Roses.—Palms.

Please tell me what roses you recommend as climbers that will be hardy here without protection in winter. I want those that bloom all summer.

Also what species of palm will grow largest and best with ordinary house culture?

R. F. S.

Wayne Co., Pa.

The varieties derived from the Prairie

rose will be found hardy in the situation named. Baltimore Belle, Queen of the Prairies, Gem of the Prairies, Mrs. Hovey, Triumphant, and Anna Maria, will all of them be suitable. The first two in this list are the most popular and probably the most reliable. Gem of the Prairies has some fragrance, the others are destitute of it. None of them are continuous bloomers.

Desirable kinds of palms for house culture are Kentia Forsteriana, K. Belmoreana, Latania Borbonica, Areca lutescens, Phoenix reclinata, Seaforthia elegans, Cocos Weddeliana, Chamærops humilis.

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Frost Killing Lilies and Pansies.—Wistaria and Rose not Blooming.

Will you please explain the following through the Letter Box and greatly oblige: This spring a number of my lilies (*L. rubrum*, *album*, *tigrinum*, *elegans* and *tenuifolium*) came up apparently quite healthy, but when five or six inches high they turned black and rotted and did not sprout again. In some of the cases, at least, I think the bulbs rotted, too. We had warm weather, then frost and north wind; but in poor rocky soil the lilies were not hurt much, while the same kinds in heavier, richer soil were killed. Last year I had pansies die in a similar way, after they had bloomed well out doors during the winter.

I have a purple wistaria, three or four years old and about twenty feet high, which has never bloomed; can you explain why?

I also have a single Cherokee rose, about fifteen feet high, that has never bloomed.

H. O.

Cazadero, Cal.

The lily bulbs in the good soil had started in full vigor and when cut down by the frost were unable to start again. Many plants in full vigor will be killed in the same manner by cutting them down, and any plant so treated will be greatly weakened and injured. Those in poor soil had probably made but little growth, and still had a reserve of vitality in the bulb. The pansies mentioned died under similar circumstances for the same reason. They had nearly exhausted themselves by blooming and had had no chance to recuperate when the frost cut them.

There is nothing strange about the wistaria not blooming at three or four years. It will bloom in its own good time. Its great effort in the first few years of its life is to grow, and later it will come into bloom.

We have had no experience with the Cherokee rose, but have no doubt it will bloom when it has somewhat exhausted the richness of the soil where it stands.

HALL'S

Vegetable Sicilian

HAIR RENEWER

Will restore gray hair to its youthful color and beauty—will thicken the growth of the hair—will prevent baldness, cure dandruff, and all scalp diseases. A fine dressing. The best hair restorer made.

R. P. Hall & Co., Props., Nashua, N. H.
Sold by all Druggists.



ROCHESTER, N. Y., JUNE, 1896.

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200,000

Average Monthly Circulation.

Portrait of Patrick Barry.

The Minnesota Horticulturist presents its readers, in its May number, with a portrait of the late Patrick Barry, who, the editor truthfully states, "occupies an enduring place in the annals of American horticulture."

The present generation of fruit-growers and horticulturists in this country have little conception of the valuable work in originating, introducing and testing fruit and ornamental trees which was done between the years of 1840 and 1880 by such men as the Downings and Chas. M. Hovey, Patrick Barry, Marshall P. Wilder, John Jay Thomas, Dr. John A. Warder, and also A. S. Fuller, recently deceased. As a remnant of this group, and still interested and active in the same work may be mentioned especially Thomas Meehan, of Philadelphia, and George Ellwanger, of Rochester.

**

The Rathbun Blackberry.

Mr. Rathbun, originator of the blackberry bearing his name, has shown his faith by his works. He now has ten acres planted to this berry for fruiting,—about ten thousand plants in all. A report from him, on the 9th of May, states that the plants are in a condition for bearing a heavy crop of fruit,—a fact which speaks well for their hardiness, as the temperature was very low there last winter, in various localities in that region registering as low as 24° and 26° below zero. If no late frost intervenes there will probably be a fine crop of berries.

Mr. Rathbun is an experienced fruit-grower and is sure that he is taking the proper course in engaging largely in the planting of this variety.

The Dahlia.

A very neat brochure with this title has been prepared by Lawrence K. Peacock, Secretary of the American Dahlia Society. It is published by W. P. Peacock, of Atco, N. J., at the price of 50 cents. The subject is well presented, giving the habits, characteristics, cultivation and history of this plant. The illustrations are numerous and excellent. Those of our readers, or others, who may wish full details in regard to the various classes and varieties of the dahlia and the cultivation of the plants will find that this publication will meet their wishes.

**

Natural History of Plants.

The great German work, the Natural History of Plants, by Anton Kerner, has been translated into English by F. W. Oliver, Professor of Botany in University College, London, and is published by Henry Holt & Co., of New York. It is a masterly and comprehensive work, tracing the life history of plants from protoplasm to oak and palm, and clearly and simply stating and exemplifying the basal truths of botanical science so as to be easily understood by the general reader or young student, and at the same time preserving the exactness of scientific exactness of scientific expression,—in fact, the language fittingly corresponds with the attractiveness of the whole subject, and both maintain throughout the interest of the reader. The book is in quarto style, bound in four parts, containing in all some 1,800 pages, with about 1,000 original wood cut illustrations and sixteen plates in colors.

**

Bacteriosis of Carnations.

Carnation growers have had a great work done for them by the investigations of Dr. J. C. Arthur and H. L. Bolley, of the Agricultural Experiment Station of Purdue University, at LaFayette, Indiana. This is Bulletin No. 59, Volume VII., March 1896. The nature of the disease has been studied, and a very full report is made in this bulletin. In illustration of the text are eight handsome plates. The following is a summary of the subject:

1—Bacteriosis of carnations is a widespread disease of the carnation plant only recently recognized.

2—It is seated in the leaves, but affects the whole growth of the plant, and checks the production of flowers.

3—The disease is caused by parasitic bacteria entering the plant from the air through the stomata, or occasionally by the punctures of aphides.

4—The germ associated with the disease may be separated and shown by artificial infection of healthy plants to be the cause of the disease.

5—The germ will grow well at any temperature not inimical to the life of the carnation plant.

6—The disease does not usually affect other pinks beside the carnation, but may be artificially transferred to several species.

7—Plants outside the pink family will not contract the disease, naturally or artificially.

8—Any varieties of carnation may be affected, but old and weak or poorly grown varieties are most susceptible.

9—Plants may be kept essentially free from the disease by keeping the foliage dry and preventing the presence of aphides.

10—Watering a carnation house is to be done by

directing the stream of water between the rows beneath wire netting arranged to support the foliage.

11—Overhead spraying is only to be done occasionally on bright days, and with water containing a small amount of ammoniacal copper carbonate.

**

American Ginseng.

Considerable interest appears to be taken in this plant, and persons in different localities who have the proper facilities are attempting or are engaged in its culture. A few years since some articles on this plant and its cultivation, written by Mr. George Stanton of Summit Station, N. Y., were published in these pages and attracted very general attention, copies of the same being enquired for from that time to the present.

The subject has been taken up by the Department of Agriculture, Division of Botany, which has just issued Bulletin No. 16, entitled "American Ginseng. Its Commercial History, Protection, and Cultivation," by George V. Nash. In regard to this publication the botanist of the Division, Mr. Frederick W. Coville, says:

"This report has been prepared in response to a popular demand for information on the culture of American Ginseng. The bulletin brings out the fact that the wholesale price of American ginseng has steadily increased from 52 cents per pound in 1888 to somewhat more than \$3 per pound in 1893, and that the value of the export for the past decade has amounted to between \$600,000 and \$1,000,000 per year. The report also points out the fact that the natural supply is now rapidly decreasing, and that its extermination, if present conditions continue, is inevitable. At the same time there can be no question that the cultivation of ginseng is entirely practicable, and this information on the subject is therefore submitted to those interested."

Merit Talks

Merit in Medicine means the power to cure. Hood's Sarsaparilla possesses actual and unequalled curative power and therefore it possesses merit. When you buy Hood's Sarsaparilla, and take it according to directions, to purify your blood, or cure any of the blood diseases, you are morally certain to receive benefit. The power to cure is there. You are not trying an experiment. Hood's Sarsaparilla has cured so many thousands, that you have every reason to expect it will cure you. It will make your blood pure, rich and nourishing, strengthen the nerves and build up the whole system. Remember

Hood's Sarsaparilla

Is the One True Blood Purifier. All druggists. \$1

Hood's Pills easy to buy, easy to take, easy in effect. 25c.

A HANDSOME DWELLING.

The exterior of this house is plainly finished, but it is so proportioned and treated as to render it a very attractive building. There is a charm about it, in softness of detail and general effect, which is but poorly portrayed by the small drawing here given. The front porch is commodious and the second

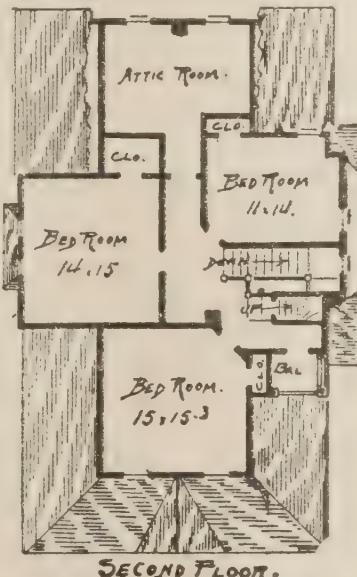
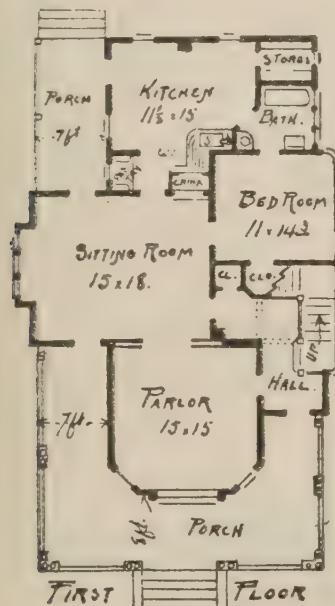
Siding or weather-boarding is used on the outside of both stories, except second story of right side, which is shingled. Shingle roof. Painting three coats. Plastered with cement plaster. The interior of the house is trimmed in white pine, finished natural color in hard oil. The plumbing consists of kitchen sink, bathtub and bowl in bathroom, with con-



story balcony over hall is an attractive feature. Comfort, convenience and cost all have been consulted in its construction. The interior is conveniently arranged and nicely finished, and all go together to make it a most satisfactory design throughout. The following ab-

nctions. The house can be built as described in most sections of the country for from \$2,300 to \$2,500, complete.

Further information as to the design, or plans for same, can be had by enclosing stamp and writing to the architect, E. Allan Payne, Carthage, Ill.



stract of the specifications give an insight to the manner of construction and finish. Size $33\frac{1}{2} \times 55\frac{1}{2}$ feet, over all except steps. Height of first story 10 feet; second story 8 feet 6 inches. The foundation is of stone. No cellar has been provided, but could be had under a part or the whole of the house at some additional expense.

It is a pleasure to place before our readers occasionally the handsome designs of residences which appear from time to time in our pages. Handsome structures and well planned grounds beautify our village, suburban and country homes; they increase our happiness and intensify our love of home and country, and support and foster noble aspirations and useful and faithful work.

ROSES AT AMES, IOWA.

A strong individuality has always been manifested by the Experiment Station at Ames, Iowa. For years it has been a pioneer in testing fruits and discovering and introducing those that are sufficiently hardy for successful cultivation in the cold regions of the West and Northwest. In this undertaking it has met with great success and proved its almost inestimable usefulness to all that region. It has also made notable advances in many other ways which we may not now mention.

Bulletin No. 32 of this Station, which has lately been issued, gives a variety of most interesting information. Among others is that relating to the origination and testing of some new hybrid roses, and as it appears probable that a new race of roses may have been started which shall be of permanent value, the account as published is here reproduced:

In Bulletin No. 22 we gave in detail our work in crossing the Russian Rosa rugosa with pollen of a number of the best garden roses. The crossing was done in the summer of 1892, and the seed planted the following spring. In the fall of 1893 the plants were potted and wintered in the cellar. The following spring they were planted out in nursery rows where they now stand. In the fall of 1894 the tops were cut back to mere stubs which were covered with earth. During the past season (1895) they have made a rampant growth which has been unfavorable for the blossoming of such young plants. As a rule, the hybrids showing most variation from the Rosa rugosa mother have not bloomed, while those following more nearly the mother in leaf and habit have given more bloom. At this time we will only report two of the wide variations which have blossomed quite freely at this tender age.

I. A. C. ROSE.

This is our No. 1 of the many seedlings produced by fertilizing the Russian Rosa rugosa with pollen of the General Jacqueminot. The bush is a rampant grower, now four and one-half feet in height, with many branches. It is less thorny and its leaves are thicker, more leathery and glossy than those of either parent. So far it seems a model of health, and able to endure the extremes of summer heat and drouth.

The first flowers opened July 22d. The flowers average larger than those of Gen. Jacqueminot, are much more perfectly double, containing as high as sixty-six petals of a beautiful dark crimson color much like the Russian Rosa rugosa, and delightfully fragrant. As the mother has but five petals and the male parent but about forty, the perfect doubling of the hybrid is remarkable. Possibly it has bred back to some ancestor of the General Jacqueminot.

ROSA RUGOSA. GEN. JACQUEMINOT NO. 2 ROSE.

This is also a rampant grower, now four and one-half feet in height. The thorns are stronger and more numerous than those of either parent. The leaves are larger, thicker, firmer, and more glossy than those of the parents, but are less rugose than those of the mother. This hybrid developed its first flowers June 21st, and has blossomed profusely up to the present time (September 5th) and still shows young blossom buds. The petals number about twenty-five, peculiarly fragrant, and of the same brilliant crimson as the Gen. Jacqueminot. The profuse and continued blooming habit and vivid color of blossom makes it very promising.

Other hybrids have blossomed that show the beautiful color of the Gen. Jacqueminot, Duchesse de Brabant, and other choice varieties, which show a tendency to doubling; and other plants not yet in bloom indicate their hybrid character in color of wood and modified foliage. From these we hope to see valuable results as the plants attain age.

None of our hybrids will be propagated for distribution until we have watched their behavior two or three years longer.

We have reason to expect far more valuable results from these crosses with the Russian Rosa rugosa than have been reached with the type of the Rosa rugosa imported from Japan which has been mainly used in the eastern United States and western Europe as a mother stock. The Russian Rosa rugosa, now known as Rosa rugosa Regeliana, is far handsomer in habit, in leaf and color of flower, and is harder and much better able to endure drouth than the Japan type.

THE CENTAUREA.

N order to properly describe the various species of centaureas and to treat of their cultivation as fully as their importance demands I find it necessary to divide them into two classes, viz: The annuals, and perennials or hardy herbaceous species. In this paper I will notice the latter only, leaving the others for future consideration.

The perennial species form a class containing many valuable subjects suitable for the mixed flower border as well as for cut flower purposes. All are perfectly hardy and easily grown, doing well in any soil or situation, but to enable them to do their best they should be given an open, sunny situation, a very deep and well enriched soil, sufficient space in which to properly develop themselves, and during the winter season a good mulching of coarse stable manure can be given with the most satisfactory results.

Good plants can be procured of most dealers in hardy perennials, and the supply can be readily increased by a careful division of the older plants, or by seeds, which are freely produced. In dividing the plants let the operation be performed as early in the spring as possible or just before the plants start into growth. The seed can be sown at any time during the early spring months, or as soon as gathered, on a nicely prepared border in a partially shaded situation. Sow thinly, cover slightly, and as soon as the plants are large enough to handle let them be transplanted into rows and placed about six inches apart each way. During the summer they should be kept clean and free from weeds, and as soon as the soil becomes frozen in December mulch with coarse, littery manure, and early in the spring remove to their permanent position in the mixed flower border. Of the many varieties in cultivation the following are the most desirable and distinct:

C. ATROPURPUREA. This species is a native of Hungary and grows from three to four feet in height. It is of a very neat, compact habit of growth, and blooms from June to September, the large dark maroon, globular flowers being borne on long stems and in the greatest profusion. This is one of our most valuable border plants and is but little known and appreciated.

C. BABYLONICA. This species is a native of the Levant, and in cultivation attains a height of six feet. It blooms from July to September, the bright yellow flowers being produced in dense globular heads.

C. DEALBATA. A native of the Caucasus and grows about eighteen inches in height. It is of a very compact habit, with handsomely cut, light green foliage and clusters of very showy light pink flowers with a pure white center. It blooms from July to September.

C. MACROCEPHALA. Grows about three feet in height and blooms from July to September. Showy foliage and terminal spikes of deep yellow flowers. A native of the Caucasus.

C. NIGRA VARIEGATA. An American species growing about two feet in height and blooming from July to September; the flowers are of a deep purple color.

C. MONTANA. An Austrian species growing about two feet in height, and blooming in the greatest profusion from July to September. Of this species we have several varieties, viz: Alba (white), rosea (red), and sulphurea (yellow), all of which are quite invaluable for cutting purposes and very useful in making bouquets.

CHAS. E. PARNELL.

Floral Park, N. Y.

**

A GARDEN NOTE-BOOK.

THIS little book is one of the greatest conveniences a gardener can have. It can be very elaborate, containing information on everything pertaining to the garden, or can have just the bare facts recorded week by week. People with plenty of time to use in making up the book, often enjoy recording the temperature, amount of rainfall, dates of first and last frosts, as well as any other little items of interest. In our book only the more important facts are noted, and those are mostly in the line of our own experience. In the first place we had an idea of making the book to aid in determining the relative value of three strawberry beds, one, two and three years old. The book was ruled, dated, and the picking from each bed was recorded each day in the proper column. Another part of the book was used for placing the dates of ripening of the different sorts, about thirty in all; this table showed the earliest and latest dates of picking each variety. The plan of recording the number of boxes picked each day during the season, the date, and price of berries on that day, is kept up each year. At the end of the strawberry season the columns are footed up, and by referring to the notebook we can tell at a glance just how many boxes were picked each year, how much money they would have brought had all been sold, how many boxes were sold, and how much cash was received for them.

Another space in the book was used to record the dates of ripening of about fifty varieties of grapes which we raised. This was left so that the dates could be filled in each year, thus showing the difference in the time of ripening of the several sorts each year. Despite the change in the seasons, early or late spring, much rain or drouth, the dates do not vary so much as one would suppose.

It is often interesting to note down a few items, such as the time of starting the hotbed, planting the several kinds of seed, setting out cabbage, tomato and

celery plants, etc. These facts often are useful the next season.

Our book is useful for a variety of purposes: When plants, seeds or bulbs are ordered the lists are copied in the book and dated, so we know what is ordered and can refer to it when the stock comes. It is also useful, sometimes, in after years to know just what year certain trees, vines or berry bushes were set out, and the book can tell us.

We raise a great number of gladioli, often planting 600 or 700 bulbs; many of these are named varieties, and it is a hard task to keep them separate. When planting it seems almost impossible to tag them all, so I adopted the plan of writing down the list of names in the note-book and then planting the bulbs in the order given. By marking the pages of the book "north, south, east, west," to correspond with the points of the compass, I have my bulbs where I can locate them.

The handiest way to do about this book is to have a good sized blank-book, with pencil attached. As it has a very demoralizing effect on such a book to carry it into the garden, it is best to have a small folding slate or celluloid tablet and pencil to carry in the pocket. The entries can be made in the book at your leisure, and the notes erased, leaving the slate or tablet ready for use.

We keep account of everything bought for the garden or sold from it, but it is almost impossible to keep a strict account of the supplies used by the family. It is enough to know, however, that our family has little fruit and few vegetables to buy the year round, and garden is kept for that purpose,—not to sell the products.

Z.

THE FRUIT OUTLOOK IN MAY.

It appears from reports from California that most of the summer fruit crops of that region have been severely injured by frosts. The output of apricots, peaches, prunes and grapes it is thought will not be more than a third of the usual amount. Early cherries have also been much injured.

Reports are being made of severe injury during the winter of the grape buds in the Chautauqua grape region, and it is thought the yield of grapes will be light. At this time, May 7th, reports have not been received from the Ohio vineyards and those of the lake regions of western New York.

Most peach orchards in this State have been greatly injured, or the buds wholly destroyed. Reports from New Jersey, Maryland, and Delaware are favorable to a good peach crop.

So far as the blooming of the apple orchards may be taken as an indication there is a fine prospect of fruit, but the scab and codlin moth have yet to be reckoned with, and these must, no doubt, be placed at a high figure; so that, under the best conditions that will obtain, only a moderate crop of apples may be expected.

THE CRIMSON RAMBLER ROSE.

The Crimson Rambler has stood out unprotected during the winter in this city without injury. A writer in *Gardening* reports the same at Flushing, L. I., and the editor of that journal says it is quite hardy both at Dosoris, Long Island, and at Pittsburg, Pa. Reports will probably soon come in from more northern localities. This rose will, evidently, prove to be a great acquisition as a garden rose for most parts of the country. As a greenhouse rose it is very desirable. Splendid pot-grown specimens were seen here last winter. Antoine Wintzer, writing in *Gardening*, says:

"The Crimson Rambler has exceeded my expectations. One year old plants of it potted into seven-inch pots, December 31st last, were masses of bloom in February and early March. It is one of the most enduring roses we have, flowers remaining on the plant for several days without fading."

As an outdoor climber and as a trailer on the ground it will prove useful and be very different from anything else among roses.

MY GLADIOLI, TULIPS, ETC.

LAST summer was my first experience with the gladiolus, but my success was abundantly satisfactory. I ordered fifty bulbs, and it was astonishing what a thrifty growth they made, and what splendid flowers they produced. I was very proud of my "hedge" of bloom, and the flowers lasted much longer than I had supposed they would. I used to insist that everybody should grow sweet peas and nasturtiums; now I would add gladioli and cannae to the list. They are all so easily raised that the veriest novice who tries at all, will be successful in growing them. Then with plenty of climbing roses about the verandah and near the windows, one is sure of flowers when the perfect days come.

I was much surprised the last of January to find that my tulips were up two inches or more above the ground. I had straw placed carefully over them and thought I had been wise and watchful in my tender care; but lo! and behold! when I looked through the window a few hours afterwards I found that my neighbor's hens had been having a very enjoyable scratching party, and the straw was all over the lawn. Job's patience, however, has been inherited by us all in a greater or less degree, and without any ejaculations about the virtues of neighbor's hens, the straw was all gathered up and again laid as a coverlet over the rash tulips,—this time it was made secure by the branches of the tall Christmas tree, which had been cast into the garden as rubbish to be burned later on.

I do not know whether I have already reported on this tulip bed. Some good things will bear repeating, and if I have said it is a very good thing to have a tulip bed, I would say it again,—for my bed was so bright and cheery. I had several kinds, and different colors, and a row of daffodils alternating with the tulips. When one thinks of the little trouble required to make the bed he cannot but acknowledge that it is well worth while. When the tulips were done blooming I set out petunias and verbenas, and the bed was a mass of bloom all summer.

But one is inclined to be with flowers as Oliver Twist was with food,—one is always wanting more and more, until every nook and corner is full to overflowing. That is the way Nature makes her flower-beds,—they are everywhere and always brimful.

I saw such a pretty sight last summer,—I was driving by a little wood that was literally a wildwood; a little stream meandered through in a circuitous way, and the sun seemed scarcely more than to glance at the trees, so secluded they

seemed. Nature had had an eye to graceful drapery. Although the trees were clothed with their own foliage, she had draped them with the wild cucumber vine until they formed a lovely bower; the vine was in full bloom. It made a picture which has been to me what the daffodils were to Wadsworth:

For oft, *** in vacant or in pensive mood,
They flash upon that inward eye;
Which is the bliss of solitude;
And then my heart with pleasure fills,
And dances with

that beautiful wildwood scene.

But whether one takes pleasure in this or that particular plant is not necessary, it is only that some plants are cultivated and enjoyed,—that is the chief thing. The more attention we give to our flower gardens the greater love for flowers we will have; and it is good for us to "become as little children" and play in the fine, mellow soil. We must own that there is a kinship between us and the dust of the earth; we enjoy close companionship with Mother Earth from youth to old age.

MRS. W. A. KELLERMAN.

**

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I have not made less than \$16 any day while selling Centrifugal Ice Cream Freezers. Anyone should make from \$5 to \$8 a day selling cream and from \$7 to \$10 selling freezers, as it is such a wonder, there is always a crowd wanting cream. You can freeze cream elegantly in one minute and that astonishes people so they all want to taste it, and then many of them buy freezers as the cream is smooth and perfectly frozen. Every freezer is guaranteed to freeze cream perfectly in one minute. Anyone can sell ice cream and the freezer sells itself. My sister makes from \$10 to \$15 a day. W. H. Baird & Co., 140 S. Highland Ave., Station A, Pittsburg, Pa., will mail you full particulars free, so you can go to work and make lots of money anywhere, as with one freezer you can make a hundred gallons of cream a day, or if you wish, they will hire you on a salary.

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WINTER-BLOOMING WINDOW PLANTS.

THE present is the proper time to decide upon the house plants intended for next winter. And having made the selection, and procured them, if not already in hand, their summer treatment



BEGONIA SEMPERFLORENS ROSEA.

should be given with reference to their winter use. Most of our readers undoubtedly have their favorites, but some will be making collections and others will be making additions to those now on hand, and the following notes may be helpful to many.

A great variety of plants are under window culture and some persons seem to have exceptional skill in raising some particular kinds that most others fail with. Undoubtedly there is very much difference in the light, the heating and the ventilation of rooms, and these elements taken in connection with the different degrees of care and knowledge and skill the plants are subjected to, allow of almost an infinite variety of combinations of circumstances more or less favorable to certain kinds of plants. Thus we find occasionally a person raising some plant in the window in a condition so remarkably thrifty that it would be considered an undeniable test of skill by a gardener with well equipped appliances. But because a person here and there unexpectedly succeeds in house culture with some particular plant not in general use, it must not be supposed that all or many can do so. The range of plants adapted to ordinary house culture is pretty well defined, and it is not best to go very much outside of it. The variety is great enough to allow of much choice. The ever present geranium is so universally popular because of its great vitality in connection

with its freedom of growth and bloom. It may be made to present always an abundance of green foliage, even when not in bloom. Vitality in a window plant is a consideration of the first importance, and in no plant is it greater, for the time at least, than in sound bulbs prepared for blooming. The beginner in plant culture will do well to make a start with bulbs, for if only a few simple conditions are observed success is almost certain with them. The hyacinth, tulip and narcissus are the bulbs most in demand, but the lily, lily of the valley, and freesia are also much used and quite a variety of other bulbs are employed. Different varieties of amaryllis are highly prized. The calla, Richardia Africana, a tuberous, not bulbous, plant, though in common parlance so mentioned, is one of the universal favorites. It is the vitality of all these plants that makes them so amenable to house culture, for however desirable the flowers might be, if the plants were of weak constitution they would be unfitted for the

unlimited and each seedling changes in this respect, as also in its flowers. Begonias for the window in winter should be well cultivated during summer, being kept in pots or planted out in the open ground and taken up in September, and should be grown into well proportioned, branched specimens. The varieties are so numerous that almost every fancy may be pleased, but there is one that excels all others in its amount of bloom, while it is a handsome plant in all other respects. This is the variety known as *Semperflorens rosea*. It is truly ever-blooming; at all seasons it is putting forth its flowers, and one can never cease to wonder how a plant can show such continuous exuberance of bloom. An examination of the flower catalogues will show many desirable varieties of begonias. The tuberous begonias are adapted only to summer use, and those varieties composing what is called the Rex class, are more suitable for the greenhouse than the window.

For late fall and early winter the chrysanthemum occupies an undisputed position. The varieties of it are so numerous that all tastes can be gratified. The young plants require to be kept steadily growing from start to finish; to be regularly supplied with water and liquid manure; to be pinched in and made to branch symmetrically, or to be trained to a few stems for large flowers, and the buds kept



OXALIS ORTGIESII.

purpose. Besides the geranium there is no plant employed in window culture in greater variety than the begonia. These plants present a great variety of leaf forms and all of them are pleasing. The variation in size, shape and color of leaves is

off until allowed to set, in the latter part of summer, for the crop. Care and skill are required to raise the plants well, but the result is worth all the trouble.

The carnation as a florists' flower is next to the rose in popularity, and im-

mense quantities of the flowers are raised and sold. As a rule but few amateurs raise it well, though it is not impossible, nor even very difficult, to do so if one is provided with healthy young plants. These planted out in spring, in a good spot in the garden, may be grown into good sized specimens by October, when they can be potted and afterwards cared for in the house. Pinching back shoots that advance too rapidly, and taking off the buds formed in the first summer months are points that need particular attention. Stirring the ground, sufficient nutrient, and whatever else may conduce to vigorous growth are requirements.

Oxalis floribunda rosea and *alba* are excellent and popular winter flowering plants, and very deservedly so. They require but little attention and are almost continually in bloom. They are much used as basket plants. One wanting something "easy" to grow should try the *oxalis*. *Oxalis Bowiei* is a handsome species which, like the first two named, grows from a bulbous root-stock. The flowers are rosy red, about an inch and a half across. It is, however, more of a fall blooming variety, and its season is short compared to *O. floribunda*. *Oxalis Ortgiesii* is an upright growing plant, with dark green foliage, purple on the under sides, and reddish leaf stalks; flowers yellow; a very constant and long continued bloomer. Its handsome foliage and free blooming habit and easy culture make this a very desirable and popular window plants.

Mahernia odorata is a small, shrubby plant with finely cut leaves, and small, bell-shaped yellow flowers which are very fragrant. It is a very constant bloomer and of simple culture.

The heliotrope has long been a popular window plant and ordinarily it is successfully cultivated. It is probably more sensitive to the presence of coal gas and burning gas than many other plants, and sometimes its foliage is injured by their presence.

Solanum jasminoides grandiflorum is a free growing and a free blooming plant of climbing habit; flowers white with a violet tinge, borne in clusters. It can be depended upon as a constant bloomer.

The Otaheite orange,—so much has been published lately about this plant that little need now be said, more than to confirm what has been so often repeated concerning it, that it is of a free and continuous blooming habit and of easy culture.

Some varieties of abutilon are excellent house plants, Golden Fleece being one of the most free to bloom, a good plant in a sunny window producing its flowers all through winter, spring and summer. Souvenir de Bonn does not bloom so freely, but its foliage is so handsome that it is a desirable window plant, even without bloom.

Several excellent winter blooming win-

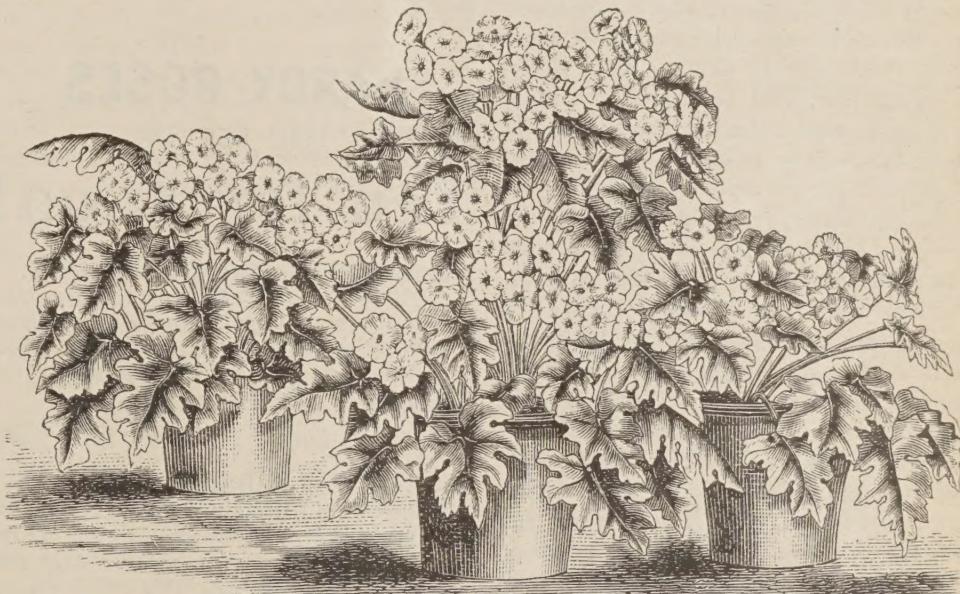
dow plants may be raised from seeds. The principle ones are the Chinese primrose, *Cyclamen Persicum*, and *Impatiens Sultani*.

Cyclamen seeds should be started as easily as February or March, and the amateur seldom succeeds in raising the corms to a blooming size before the second year. Dealers, however, offer them of blooming size early in autumn and most person prefer to procure them in this shape to raising them from seed.

Impatiens Sultani is not as well known as a fine window plant as it should be. It is as easily raised from seeds as the common balsam and will become a large, compact, bushy plant. It commences early to bloom and produces its rosy-carmine flowers in great abundance and continuously; it is as near to ever-blooming as any plant can be.

The Chinese Primrose is an ideal window plant for winter. It blooms constantly and its handsome flowers are borne in

pinches of sand between thumb and finger sprinkle it lightly over them; lay a pane of glass over the top and stand the pot in a warm, shaded place. As soon as the plants come through remove the glass partially, and soon wholly. While under the glass watering will not be apt to be needed,—if it is, give water as already described. After the seedlings have made a new leaf or two they can be pricked out into other pots, letting them stand about an inch apart so that they will have plenty of air. After making a little growth they can be potted singly into small pots, being careful not to set the crown of the plant into the soil, but just at the surface; give a little support if necessary to keep in an upright position. The potting soil can be one part each of well rotted manure, leaf mold, and sand, and two parts of loam. A cool, airy, and shady place should be given them, and attention given to a regular supply of water. Shift into larger pots as they grow, finally giving them five-inch



GROUP OF CHINESE PRIMROSE PLANTS.

great numbers; there are both red and white varieties, and, also, one white striped with red, and doubled flowered varieties.

There is a variety with deeply cut leaves, called Fern-leaved. The plants, if properly raised, commence to bloom early in winter and will continue until late in spring, especially if there is a succession of plants. To produce such succession the seeds should be sown at different times in spring, commencing with March and continuing into June, each lot of plants being brought along by itself with reference to keeping up a continuous supply all through the winter and spring. The seed can be sown in shallow pans or boxes or pots of well drained, light soil, mostly leaf-mold, but with an addition of a small quantity each of loam and sand. Press down the surface of the soil to make it smooth, set the pot or pan in a dish of water, allowing the moisture to come up through the drainage hole until the whole body is moistened; then sow the seeds on the surface, and with a few

pots. Some skill is required to raise fine plants, and one may well be proud of them when grown.

If one wants a plant for winter blooming which is easy to raise from seed he can sow a little petunia seed, any time in July or August, in a bed in the garden prepared with a fine surface. Let the plants grow where they come up until they have made several leaves, and then lift and pot them, and care for them outside until October when they can be taken in and can be kept close by the window in pots or boxes, over the sides of which they will trail as they grow, and keep blooming all winter. Though rather humble plants and of no use for cutting, yet they make quite a show of bright colors and do not demand much attention.

As to insects, they are easily banished by means of various insecticides, and sulpho-tobacco soap and kerosene emulsion are the principal ones. These only need to be used in time. A good sprayer and a good hand syringe are the important implements, and with these and watchfulness all danger from them may be averted.

THE GIFTS OF JUNE.

Will you lay your hand in mine,
Laughing June, and sing a tune
As joyous as that face of thine,
Will you lay your hand in mine?

Will you give your roses red,
Gold-heart lilies snowy white,
Noon-lush splendors, incense shed,
Will you give your roses red?

Will you give your clover blooms
And your wand'ring honey-bee,
Tunes of tender twilight, June,
Will you give your clover blooms?

Murmur of your rivers, sweet
As the kiss of falling dew,
All about Earth's weary feet,
Murmur of your rivers sweet?

And the June dawn answered me:
"Earth-born mortal these are thine;
All thy birthright full and free,
Coming from a source divine!"

E. S. L. THOMPSON.

**

SWEET VIOLETS.

VIOLET-TIME has come again, and never were violets more welcome or popular. To successfully grow the violet in the house it is important that one should have good, thrifty, young plants, absolutely free from disease and insects, to begin with. Any reliable dealer, who values his reputation, will send just the right kind of plants for the beginner. I would advise leaving the selection to him also. When the plants arrive I put them in lukewarm water (without removing the moss) for half a day at least, in a cool and rather dark situation. Just sufficient water to cover the roots should be used; if much wilted the leaves should be sprinkled. A box or tin can may be used for them; I prefer wood or tin for this class of plants, as it holds moisture better than the small earthen pots. The vessel, whatever may be used, should be filled with a rich, sandy loam; plant carefully, do not press the soil too firmly around the tender roots, water and place in a north window until well established, which usually takes about a week, then remove to an east window; give sufficient water to keep the plant in good growing condition, and keep the foliage clean. With such treatment the plants will begin to bloom after a short time.

Those who think their houses too cold to grow house-plants, and who do not possess the much sought for south window, should try violets, as these will give fragrant blossoms even under such adverse conditions. The plants multiply very fast, sending out runners in much the same manner as the strawberry. As soon as the runners are well rooted sever the young plants from the old and more bloom will be secured. On no account ever suffer the violet to become dry or to endure the scorching rays of the midday sun. I prefer starting the plants in early spring or in autumn, though I have succeeded in growing nice plants in summer, but it requires more care, and they are more liable to disease. I keep my violets in a north room, in an east window, with good results.

A. H.

Hybrid Perpetual Roses

In the following list it will be found that the range of color comprises all the really valuable and distinct shades. The varieties named are also superior in size, hardiness, vigor, productiveness and other characteristics essential to a good rose.

HARDY ROSES THE SET OF Ten for \$1.00!

Anne de Diesbach

(Glory of Paris.) Brilliant crimson, long pointed buds, large, finely formed, compact flowers, very sweet; free bloomer. Valuable for forcing, and a superior garden sort.

Coquette des Blanches

Pure white, sometimes delicately tinged with pink.

Duchess of Albany

Sport from LaFrance, deeper in color, more expanded in form and of large size. Flowers deep pink, large and full, highly perfumed. First-class in every particular.

General Jacqueminot

Rich crimson-scarlet, very bright and velvety; the beautiful buds are much admired and in great demand. Undoubtedly the most popular rose in cultivation.

Gustave Piganeau

Brilliant carmine-lake; large, equaling Paul Neyron in size; full and cupped; very fragrant.

La France

Silvery rose changing to pink; a constant bloomer; beautiful in bud and flower.

Magna Charta

Pink, suffused with rose; large, full.

Mrs. John Laing

Delicate pink; large, fine form; fragrant.

Paul Neyron

A grand rose, with immense double flowers, probably the largest grown; bright shining pink, clear and beautiful; finely scented.

Prince Camille de Rohan

Rich, dark velvety crimson, shading to maroon; very double and sweet.

Strong Plants of above 15c. each

James Vicks Sons,
ROCHESTER, N. Y.

ROSE CULTURE.

This is my subject, which I propose to take in the following order:

- 1—Roses in general.
- 2—Preparing the ground for them.
- 3—Protecting, pruning, and exhibiting; and concluding with a few words upon roses in particular.

ROSES IN GENERAL.

Speaking of roses in general it must always be remembered that there are roses and roses. The same modes of treatment do not apply equally to all. No rose culture will be successful which does not recognize and is not ruled by their infinite variety. Hybrid perpetuals (H. P.s), for example, I consider quite as distinct as boys and girls, and as equally needing distinctive education. These "fair sex roses," as Mr. Frank Cant has so happily designated them, as they represent the softer sex, so they demand more gentle handling.

"Use the woman tenderly, tenderly,
Of a crooked rib she was made slenderly;
Straight and strong besom did not make her,
And if you try to bend you'll break her."

Teas must not be treated quite as their coarser and harder brethren. Then again the whole race of Briars, Austrian, Persian and Harrisoni, and now the Lord Penzance Sweet Briar series, these all require distinctive treatment. So again climbing roses and roses under glass. Each class must be considered and dealt with as distinct, if real success is to be arrived at. Some roses will grow anywhere, others will grow nowhere, except under the most favorable circumstances; careful culture, and study of characteristics alone will obtain full answer to the poet's entreaty,

"Queen of fragrance, lovely rose,
The beauties of thy leaves disclose!
The winter's past, the tempests fly,
Soft gales breathe gently o'er the sky,
Then haste thy beauties to disclose,
Queen of fragrance, lovely rose."

PREPARING THE GROUND.

This comes naturally as a first consideration. The way this is done will depend on the nature of the soil, according as this is light or heavy, or whether the bed is intended for H. P.s or Teas. Under any circumstances I should recommend an initial trenching of at least two spits deep. If the ground be stiff, drainage will have also to be attended to, and cinders may be used with advantage to lighten it; if it be gravel or shale a clean clear-out to the depth of three feet at least may be desirable. Dean Hole tells a story of a cottager who swapped the gravelly subsoil of his garden with a neighboring farmer for a dried up pond, and both the road and the garden turned out gainers; it is true his gravel walks had to be made of cinders, if you will allow the statement, but his crops in a couple of years were prodigious. Mr. D'Ombrain thus describes the making of a model rose garden at Reigate, where expense was no object: "It is trenched to the depth of three feet. At the bottom is placed a layer of clay, then a layer of loam, then a layer of manure, and so on, until the bed is finished."

Fresh loam, of course, is the best soil of all, but roses are hearty feeders; with Manettis and standard Briars it is almost

impossible to manure too heavily, so long as the manure does not come into actual contact with the roots. I remember Mr. Keynes, of Salisbury, years ago, when I was admiring his marvellous maiden blooms, telling me that with him every briar stock planted had always a solid foot deep of manure placed beneath it, and certainly I never saw more magnificent standards. If roses have occupied the spot before, then I advocate the entire clearing out of the bed and fresh soil brought in. Roses hate to follow roses. After a certain time, too, the soil becomes utterly sick of them,—a moderate amount of change is good for us all. It is very much the case of that Scottish congregation, which very generously made up a purse and sent their minister for a tour on the Continent. Shortly after a neighbor came across one of the deacons. "I have lately met your minister in Switzerland; he did not look as if he needed a change." "No," said the deacon, "it was na him; it was the congregation that needed it." If the plants do not require it, the ground soon will.

When I was growing for exhibition I used to abolish my rose beds about every seven years and let them undergo a complete change of crop for some two or three years. Of course, when not exhibiting, they can be left some years longer. I am told that strawberries make a very good succession crop. The late Mr. Bennett also tried turnips with advantage. These suggest again the famous four courses of the farmer."

A long time ago, about 1810, in those famous years for agriculture, when a man could take a load of wheat to market and sell it and buy £100 worth of consols with the proceeds—rather a contrast to these days with wheat at 20s. the quarter, and consols up at 110!—in those palmy days of tillage, and when every available acre was under the plow, it is said that a certain archdeacon, inspecting a churchyard which had lately been enlarged, was shocked to find a fine crop of turnips growing in it. "Oh, Mr. Smith," he exclaimed, "this is all wrong." No, I assure you, Mr. Archdeacon," was the reply, "it is all in proper course; it will be barley next year." He thought it was his agricultural skill that was questioned.

Situation.—In respect of this there is a great variety of tastes amongst roses. Some must have a south wall and a southern country, and then very likely may take offence at something. Others again, poor coarse things! as Dean Hole says, have "No more pride than a dahlia after a sharp frost"—Aimée Vibert and Old Glory being notable examples.

Then, again, how *not* to grow them, had also to be alluded to. Mr. Mawley wrote about this very strongly in 1876; and I am not sure that even now matters are very much mended:

"Not one rose in fifty is grown under conditions in which it could reasonably be expected by anyone who understood at all about the matter, to yield even tolerably representative blooms. I will say that in every class of garden, without exception, roses are frequently to be seen

growing in one or other of the three following positions: 1—In the center of a small circle cut out of the lawn, the remaining space of which is filled up with either spring, bedding, or climbing plants. 2—In the midst of a crowd of other flowers in a mixed or decorated border. 3—On a lawn without any turf whatever cut away from around them. This is by far the most fatal position of all. Now, even as the shark is the most voracious and insatiable of fishes, so is the rose representative amongst flowers. How, then, can such a beautiful but hungry creature be expected to retain health and vigor when condemned to feed forever off the same small plate of food with a lot of other hungry little creatures? Everyone is aware that the queen of flowers has not pretty feet, but it may not be generally known that they are of so tender and, I may say, gouty constitution, that they cannot endure the pressure of even the lightest flower, much less of dainty looking but far heavier turf. To my mind this dainty grass would much more appropriately cover her grave—aye, and often does so cover it! This deplorable condition of the kingdom of the roses is one which I think all true and loyal subjects of the rose ought to do their utmost to rectify, both by precept and example, on every possible occasion that presents itself.—*Rev. Allen Cheales, in Journal of Horticulture.*

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PROTECTION FROM SPRING FROSTS.

Some of the fruit-growers of California have been experimenting for a year or two past with different means of protecting their orchards and vineyards from the disastrous effects of late frosts. Smudges or smouldering fires giving off considerable amount of smoke have been shown to be ineffectual. A later idea was to produce sufficient vapor to give protection. With this idea in view Mr. Finkle, of San Bernardino, suggested the use of large vats of water with fires built around them. Mr. W. H. Hammon, of the Weather Bureau at San Francisco, suggested the use of small fires sprayed from time to time. In relation to this subject he corresponded with a Mr. Fleming, of Visalia, Cal., who endeavored to put the advice to practical test. After doing so, he wrote to Mr. Hammon, detailing his experience, and as it appears to give the solution to the knotty question of protection of fruit grounds from late spring frosts we believe the information will be welcome to a large number of readers. The following is Mr. Fleming's letter and which was published in the San Francisco *Weekly Chronicle*:

Your valued favor of the 3d inst. relative to protection from frost received. Thanks for valuable information conveyed. Have made use of it to our great advantage three times during the latter part of last week. Damage is reported within a few miles of us where no effort at protection was made, but can discover no evidence of frost here at all. Almonds, early plums, apricots and peaches, all of

which either in blossom or already formed, escaped the slightest injury.

In endeavoring to carry out your idea of evaporating as much water as possible with the least amount of rising heat, we used several plans. We could not spray water on our fires, as, in order to make evaporation continuous, it required a man to attend to each fire. We burned brush beforehand on our avenues and open spaces, and the beds of live coals formed were smudged with wet straw and manure several hours before sunrise and kept wet. This could not be done among the trees without danger of burning them. We therefore heaped wet straw on a wire network four feet square, stretched from four stakes driven into the ground, the straw being about one and a half feet from the ground. Small fires were built under them, and a man could attend to several, occasionally replenishing the fire and wetting the straw.

But we finally hit on a still better scheme. We built similar wire frames on our low truck wagons, stretching them from four wagon stakes and heaping wet manure over them. Dirt was thrown on the wagon beds to protect them, and pots of burning tar were set underneath the straw roof. A barrel of water on the wagon was used to keep the straw wet. These wagons were driven about and did the best work, as they could go wherever most needed. The smoke and vapor were carried to the rear as the wagon moved, and being at once out of the rising heat, fell close to the ground in a long white trail. At daylight our whole 400 acres of orchard was covered with a white fog extending from the ground about twenty feet high.

It looks now as if one could absolutely protect against any ordinary frost, and if so you will have earned our everlasting gratitude.

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